Application No. 10/808,333 Amendment dated October 30, 2006

Reply to Office Action of June 30, 2006

**AMENDED SET OF CLAIMS** 

1. (Currently Amended) A terminal for an organic material, which comprises a carbon

nanotube to be in contact with an organic material having a 6-membered carbon ring, and a metal

that is in contact with a part of the carbon nanotube, wherein the organic material and the metal

do not directly contact each other.

2. (Currently Amended) A thin-film transistor comprising, as an electrode thereof, a

terminal that comprises a carbon nanotube to be in contact with an organic material having a 6-

membered carbon ring, and a metal that is in contact with a part of the carbon nanotube, wherein

the organic material and the metal do not directly contact each other.

3. (Withdrawn - Currently Amended) A thin-film transistor comprising at least a first

electrode region, a second electrode region, and a channel formed of an organic material having

a 6-membered carbon ring for electrically connecting the first electrode region and the second

electrode region, wherein the first electrode region and the second electrode region each

comprise a carbon nanotube that is in contact with the 6-membered carbon ring of the channel at

its interface, and a metal that is in contact with a part of the carbon nanotube, wherein the

channel and the first electrode region do not directly contact each other, and wherein the channel

and the second electrode region do not directly contact each other.

4. (Withdrawn - Currently Amended) A thin-film transistor comprising a substrate, an

insulation layer formed on the substrate, a first electrode region, a second electrode region and a

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channel formed of an organic material having a 6-membered carbon ring for electrically connecting the first electrode region and the second electrode region, wherein the first electrode

region, the second electrode region and the channel are formed on the insulation layer, and the

first electrode region and the second electrode region each comprise a carbon nanotube that is in

contact with the 6-membered carbon ring of the channel at its interface, and a metal that is in

contact with a part of the carbon nanotube, wherein the channel and the first electrode region do

not directly contact each other, and wherein the channel and the second electrode region do not

directly contact each other.

5. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the carbon

nanotube contains a fullerene.

6. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the carbon

nanotube contains a C<sub>60</sub>, C<sub>70</sub>, C<sub>76</sub>, C<sub>78</sub>, C<sub>82</sub>, C<sub>84</sub> or C<sub>92</sub> fullerene.

7. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the carbon

nanotube has a resistance of from  $10^{-5}$  to  $10^{-4}$   $\Omega$ cm.

8. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the channel is

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formed of an acene.

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9. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the channel is

formed of a thiophene or a fullerene.

10. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the channel is

formed of pentacene.

11. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the carbon

nanotube is a multi-layered one.

12. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the metal that is

in contact with a part of the carbon nanotube is gold, titanium, chromium, thallium, copper,

titanium, molybdenum, tungsten, nickel, palladium, platinum, silver or tin, or a combination

thereof.

13. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the metal that is

in contact with a part of the carbon nanotube is a combination of gold and platinum.

14. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the contact

length between the channel and the carbon nanotube is from 1 to 10  $\mu$ m.

15. (Withdrawn) The thin-film transistor as claimed in claim 3, wherein the length of the

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carbon nanotube is from 5 to 20 µm.

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16. (Withdrawn) The thin-film transistor as claimed in claim 4, wherein the insulation

layer is formed of an inorganic material, a polymer material or a self-organizing molecular

membrane.

17. (Withdrawn) The thin-film transistor as claimed in claim 4, wherein the substrate is

an insulating substrate or a semiconductive substrate.

18. (Withdrawn) The thin-film transistor as claimed in claim 4, wherein the first

electrode region and the second electrode region have two or more carbon nanotubes each.

19. (Withdrawn) The thin-film transistor as claimed in claim 4, wherein the carbon

nanotube contained in the first electrode region and the carbon nanotube contained in the second

electrode region are parallel to each other in the area in which they are in contact with the

channel.

20. (Withdrawn) A method for producing a thin-film transistor, which comprises a step

of forming a first metal electrode and a second metal electrode on a substrate, a step of

dispersing carbon nanotubes so as to form an electroconductive structure between the first metal

electrode and the second metal electrode, a step of cutting a part of the carbon nanotubes through

electric breakaway, and a step of forming a channel of an organic material on the carbon

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nanotubes that include the cut part thereof.

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